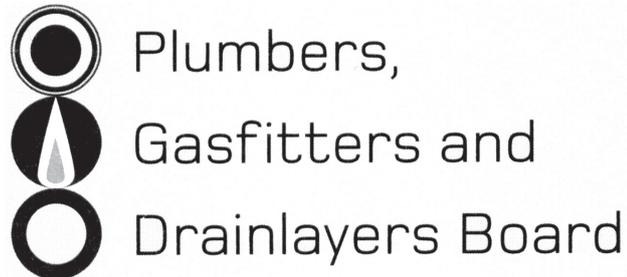


No. 9194



CRAFTSMAN EXAMINATION, NOVEMBER 2008
COMMON

ANSWER SCHEDULE

ANSWER 1

- (a)
- With fire pillows.
 - With fire mortar.
 - With fire mastic.
 - With fire wrap.

(Any 2, 1 mark each) (2 marks)

- (b) The time duration which a passive fire protection system can withstand a standard fire resistance test for.

(2 marks)

Total 4 marks

ANSWER 2

- (a)
- (i) The plenum is the distribution manifold or header that supplies the HVAC ducting with air.
- (ii) It must have the capacity to provide the required air to all outlets.
- (iii) The plenum is usually found in a central position within the HVAC system.
OR Adjacent to the mechanical plant room. (Either answer)

(3 marks)

- (b)
- The thermal mass of the building elements
 - The building orientation and shape
 - The air tightness of the building envelope
 - The heat gains from services, processes and occupants
 - The local climate
 - Heat gains from solar radiation.

(Any 4, 1 mark each) (4 marks)

(c) Restaurant volume = 128×12
= 1536m^3 (1 mark)

Air required = 128×18
= 2304m^3 (1 mark)

Therefore air changes = $\frac{2304}{1536}$
= 1.5 air changes /hr (1 mark)

(3 marks)

Total 10 marks

ANSWER 3

- (a)
1. Gas
 2. Electricity (including cogeneration)
 3. Heating and air conditioning
 4. Water supply
 5. Water disposal (foul-water and storm-water)
 6. Lighting (natural and artificial)
 7. Lifts and escalators
 8. Ventilation
 9. Refrigeration
 10. Telephones
 11. IT networks
 12. Security and alarm systems
 13. Fire detection and protection.

(Any 10, ½ mark each) (5 marks)

- (b)
1. Advising clients and architects
 2. Managing and forecasting expenditure
 3. Developing and negotiating contracts on behalf of others
 3. Liaising with other professionals such as structural engineers, architects, builders and quantity surveyors.
 4. Attending project meetings and site meetings
 5. Design of the various building services
 6. Design of special site specific equipment
 7. Overseeing and supervising the installation of the various building systems
 8. Assessment of contractors and their work
 9. Specifying maintenance and operating procedures
 10. Monitoring of building systems and processes
 11. Facilities management
 12. Ensuring that the design and maintenance of building systems meets legislative and health and safety requirements.

(Any 10, ½ mark each) (5 marks)

Total 10 marks

ANSWER 4

- (a)
1. Detailing the materials and labour required for a contract
 2. Estimating the cost of plant and equipment
 3. Working with others to plan progress and completion times
 4. Calculating a total amount, including overheads and profit and submitting a tender price
 5. Calculating and billing clients for progress payments
 6. Formulation and presentation of a final account, including variations and increased costs
 7. Monitoring expenditure against the progress of the contract
 8. Ordering of materials and plant and checking of orders and invoices
 9. Back-costing of the contract to establish profitability and provide accurate data for future pricing of similar work
 10. Liaising with the main contract Quantity Surveyor.
- (Any 8, ½ mark each) (4 marks)
- (b)
1. Managing the costs on contracts
 2. Analyse costs for maintenance and repair or refurbishment of buildings
 3. Undertake project feasibility studies
 4. Preparing budgets and detailed cost plans
 5. Preparing tender and contract documents
 6. Prepare a schedule of quantities
 7. Analysing tenders
 8. Establishing operating costs
 9. Allocating work to sub-contractors
 10. Checking sub-contractors payment claims and determining the amount to be paid out.
- (Any 6, 1 mark each) (6 marks)
- Total 10 Marks**

ANSWER 5

- (a)
- The specifications for the work.
 - Your terms and conditions.
 - The price for doing the job.
- (3 marks)
- (b) By arbitration between the parties and an adjudicator.
- (1 marks)
- Total 4 Marks**

ANSWER 6

- (a)
1. The available supply pressure.
 2. The pressure required at individual fixtures and/or appliances.
 3. Static pressure losses due to height.
 4. Demand in the total system and each of its parts.
 5. Pressure losses due to friction.
 6. Velocity limitations (due to noise, erosion and freezing).
 7. Flow rates required at fixtures or appliances
- (Any 6, 1 mark each) (6 marks)
- (b)
1. The decrease in pressure from the point of supply to the outlet.
 2. The length of the pipe run from the point of supply to the furthest outlet or appliance from this point.
 3. The speed at which the fluid flows in the pipework.
 4. The pressure available at the point of supply.
 5. The scouring action on the internal bore of the pipe and fittings caused by excessive velocity or the abrasive action of particles suspended in the moving fluid.
 6. Disturbance of the laminar flow of the fluid due to rough internal surfaces, fittings and valves.
- ($\frac{1}{2}$ mark each) (3 marks)

Total 9 Marks

ANSWER 7

- (a) The employee can discuss the situation with the employer and if no resolution is obtained the employee can refuse to carry out the work. Mediation between the employer and employee can also be used to resolve the issue
- (Any 2, 1 mark each) (2 marks)
- (b) An employee who has been elected to represent the views of employees on workplace health and safety issues.
- (1 mark)
- (c)
1. Foster positive health and safety management practices in the workplace.
 2. Identify and bring to the employer's notice hazards in the workplace and discuss with the employer ways to deal with them.
 3. Consult with inspectors on health and safety issues.
 4. Promote health and safety interests of employees, especially those who have been harmed at work and need assistance with rehabilitation.
 5. Carry out any functions referred to in a code of practice.
 6. Keep records of meetings regarding health and safety.
- (Any 4, 1 mark each) (4 marks)

- (d) The health and safety representative must be allowed up to two days paid training leave per annum to attend an approved training course unless agreed otherwise with employees and their unions.

(2 mark)

Total 9 Marks

ANSWER 8

- (a)
1. To ensure the installation is safe.
 2. To ensure the installation meets the design and specification requirements.
 3. To provide as-installed information to enable adequate visual inspection, safe maintenance and correction of faults.
 4. To meet compliance requirements and/or manufacturer's installation requirements.

(Any 3, 1 mark each) (3 marks)

- (b)
- Detailed information about how to use the product.
 - That the product complies with the New Zealand Building Code/Building Act.
- (2 marks)

- (c)
- Product certification means the product legally complies with the New Zealand Building Code.
 - A product appraisal is a technical opinion with no legal status
- (2 marks)

- (d)
- Limit the energy lost in the heating process
 - Limit heat losses from storage vessels and distribution systems connected to them.
- (2 marks)

Total 9 marks

ANSWER 9

- (a) Any failure to comply with the provisions of that Act.
- (1 mark)

- (b) The notice informs that the Act has been breached (offense has occurred) and that a penalty is payable (must refer to fines).
- (2 marks)

- (c) Only a health and safety inspector.
- (1 mark)

- (d) When the inspector has reasonable grounds to believe that a person has failed to comply with their duties under the Act and has had prior warning of their offence.
Reference to unsafe work practices ½ mark.
- (2 marks)

Total 6 marks

ANSWER 10

- (a)
1. Depreciation
 2. Maintenance
 3. Fuel
 4. Administration expenses
 5. Insurances
 6. Registration and licences
 7. Transportation e.g. trailer or truck
 8. Finance and interest charges
 9. Repairs
 10. The number of hours worked each year.
- (Any 8, ½ mark each) (4 marks)
- (b)
1. The use of a business vehicle for private use
 2. The provision of low interest loans from the business to the employee
 3. Goods provided to the employee at a discounted, subsidised or free rate.
- (3 marks)

Total 7 Marks

ANSWER 11

- (a) The capital cost of the van is not tax deductible
- (b) $\$24,000.00 \div 8 = \3000
- (c) The GST should be claimed back in the firm's next GST return
- (d) The running costs are tax deductible
- (e) For each year it is used in the business it can be depreciated by a set percentage of its value
- (f) The depreciation amount is deducted from the gross profit
- (g) The difference between book value and the GST exclusive sale price is taxable as profit
- (h) The business shall pay the GST component in their next GST return.

(1 mark each)

Total 8 Marks

ANSWER 12

- (1) Category: A Craftsman Plumber and/or Gasfitter.
Condition: Conditional on the person holding a current licence.
- (2) Category: A Registered Plumber and/or Gasfitter.
Condition: Conditional on the person holding a current licence and working under the direction of a currently licensed Craftsman Plumber and/or Craftsman Gasfitter as appropriate except where the Registered Plumber and/or Gasfitter does the work on the premises he/she occupies.
- (3) Category: Unregistered person.
Condition: Conditional on them holding a current Limited Certificate signed by the Craftsman Plumber and/or Craftsman Gasfitter or by the Registered Plumber and/or Registered Gasfitter in whose employment or supervision the unregistered person is intended to work.
- (4) Category: An Apprentice Plumber and/or Gasfitter.
Condition: Conditional on them holding a current Limited Certificate signed by the Craftsman Plumber and/or Craftsman Gasfitter in whose employment or supervision the unregistered person is intended to work.
- (5) Category: Any person holding a Limited Certificate other than an apprentice plumber and/or gasfitter.
Condition: Conditional on them holding a current Limited Certificate signed by the Craftsman Plumber and/or Craftsman Gasfitter or by the Registered Plumber and/or Registered Gasfitter in whose employment or supervision the unregistered person is intended to work. Must work under the direct supervision and in the presence of a Craftsman Plumber and/or Craftsman Gasfitter, or a Registered Plumber and/or Registered Gasfitter as appropriate if not having held the Limited Certificate for a continuous period of two years, or while in the employ of a Craftsman Plumber and/or Craftsman Gasfitter or under the supervision of a Craftsman Plumber and/or Craftsman Gasfitter or Registered Plumber and/or Registered Gasfitter in any other case.
- (6) Category: Any person holding an Exemption granted under the appropriate clauses of the Plumbers Gasfitters and Drainlayers Act.
Condition: Exemption must be current and renewed annually and shall only permit the holder to undertake the particular work specified on the exemption certificate whether that work is sanitary plumbing or gasfitting.
- (7) Category: Any person may do gasfitting.
Condition: The person doing the work must be supervised and under the control and direction of a Craftsman Gasfitter to the degree that will ensure the work is done competently and safely. The person may not do any gasfitting while that work is connected to a supply of gas or connect any gasfitting work done to a supply of gas.
- (8) Category: A householder, owner, occupier may do sanitary plumbing.
Condition: Conditional upon the premises being situated in any area having an exemption granted by the Minister by notice in the Gazette.

(1 mark category, 1 mark condition for any four) (8 marks)

Total 8 Marks

ANSWER 13

(a) The Companies Act.

(1 mark)

- (b)
- Their full name and address
 - Age if under 20
 - Their type of work
 - The basis of how their wages are calculated
 - The date their employment commenced
 - Their hours worked including start and finish times (timesheets)
 - The number of days worked each week
 - Details of their holidays and holiday pay
 - Their gross pay for the pay period and how calculated
 - Their tax code
 - Their IRD number
 - KiwiSaver records

(Any 10, ½ mark each) (5 mark)

Total 6 marks

